

# Notice of Allowability

Application No.

10/827,481

Examiner

Tesfaldet Bocure

Applicant(s)

REZNIK, ALEXANDER

Art Unit

2611

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/19/04.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892).
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 7/1/2004 & 7/12/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

Tesfaldet Bocure  
Primary Examiner  
Art Unit 2611

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the Specification:

Page 1, paragraph [0003], after "10/127,308"---now issued as US patent number 6,724,809---has been added.

### **Remarks:**

2. The above Examiner's Amendment was made to update the status of the parent application serial number 10/127,308.

### ***Reasons For Allowance***

3. The following is an examiner's statement of reasons for allowance: The claimed subject matter in claims 1-12 is allowable because the arts of record fail to teach or fairly suggest the claimed: "A method (fig. 9) for receiving a plurality of communications transmitted in a wireless code division multiple access format, a channel response for each received communication is estimated, a system responsive matrix is constructed using codes and the channel responses of the received communications, an objective matrix is produced using the system response matrix, the received communications

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being matched filtered to produce a first input, the method comprising in combinations with:

processing the first input with an interference cancellation matrix (39) to produce a first set of symbols of the received communications;

processing the first set of produced symbols with a feedback interference construction matrix (43) to produce feedback interference, the feedback matrix added to an inverse of the interference cancellation matrix equaling the objective matrix;

subtracting (37) the feedback interference from a result of the matched

filtering to produce a next input; and processing (45) the next input with the interference cancellation matrix to next set of produced symbols of the received communications” as in claim 1; and

“A receiver (fig. 9) receives a plurality of communications, the communications are transmitted in a wireless code division multiple access format, a channel estimator estimates a channel response for each received communication, a system response matrix is constructed using codes and channel responses of the received communications, an objective matrix is produced using the system response matrix, a matched filter match filters the received communications, the receiver comprising in combinations with the claimed:

a direct interference cancellor (39) having an input configured to receive an output of the matched filter (35) and an output of a subtractor (37) and processing its input with an interference cancellation matrix;

a feedback interference computation block (43) for processing an output of the direct

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interference cancellor with a feedback construction matrix, the feedback matrix added to an inverse of the interference cancellation matrix equaling the objective matrix; and the subtractor (37) for subtracting an output of the feedback interference computation block from an output of the matched filter" as in claim 7.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 6,714,527, 6,968,211 and 7,110,431 issued to Kim et al., Miya and Oates respectively disclose a receiver for multi-user detection comprising means for canceling interferences.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti (Jay) Patel can be reached on (571) 272-2988. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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